

Listing and Amendments to the Claims

This listing of claims will replace the claims that were published in the PCT Application and the International Preliminary Report on Patentability:

1. (currently amended) Active-matrix image display device comprising:
 - several light emitters (~~E_{jn} , E_{in} , E_{im}~~) forming an array of emitters distributed in rows and in columns,
 - means for controlling the emission of the light emitters of the array, comprising:
 - for each light emitter (~~E_{jn} , E_{in} , E_{im}~~) of the array, a current modulator (~~M_{im}~~) capable of controlling the said emitter, and comprising a source electrode, a drain electrode, a gate electrode and a trip threshold voltage (~~V_{th}~~),
 - column address means capable of addressing the emitters of each column of emitters (~~E_{in} , E_{im}~~) by applying a data voltage (~~$V_{data;i}$~~) to the gate electrode of their modulators (~~M_{in} , M_{im}~~) in order to control them,
 - row select means capable of selecting the emitters of each row of emitters (~~E_{jn} , E_{in}~~) by applying a select voltage (~~$V_{select;n}$~~),
 - compensation means (~~A_{in} , A_{jn} , 11, 21~~) for compensating for the trip threshold voltage (~~V_{th}~~) of each modulator (~~M_{im}~~),
~~characterized in that wherein:~~
 - the compensation means comprise at least one operational amplifier, having an inverting input $[(-)]$, a non-inverting input $[(+)]$ and an output terminal,
~~and in that wherein:~~
 - the non-inverting input $[(+)]$ of the operational amplifier is connected to a column address means controlling the said modulator, and
 - the inverting input $[(-)]$ of the operational amplifier is connected to the source electrode of the said modulator, and
 - the output of the operational amplifier being connected to the gate electrode of the said modulator,

the said connections of the inverting input $[(-)]$ and of the output of this operational amplifier thus forming a feedback capable of compensating for the trip threshold voltage of the said modulator

2. (currently amended) Image display device according to Claim 1, ~~characterized in that~~ wherein the control means comprise, for the said modulator associated with an emitter, at least a first control switch ~~(I1)~~ connected between the output of the operational amplifier ~~(A_{in}, 11, 21)~~ and the gate electrode of the said modulator ~~(M_{in})~~, the first switch having a gate electrode capable of receiving the row select voltage ~~(V_{select;n})~~ for this emitter ~~(E_{in})~~.

3. (currently amended) Image display device according to Claim 2, ~~characterized in that~~ wherein the control means comprise, for the said modulator associated with an emitter, a second control switch ~~(I2)~~ connected between the inverting terminal $[(-)]$ of the operational amplifier ~~(A_{in}, 11, 21)~~ and the source electrode of the modulator ~~(M)~~, the second switch ~~(I2)~~ having a gate electrode connected to the gate electrode of the said first switch ~~(I1)~~ in order to receive, synchronously, the select voltage ~~(V_{select})~~.

4. (currently amended) Image display device according to ~~either of Claims 2 and 3~~, ~~characterized in that~~ claim 2, wherein the row select means are capable of supplying a gate electrode of at least one of the said first switches in order to select at least one emitter ~~(E_{in})~~ in this row.

5. (currently amended) Image display device according to ~~any one of the preceding claims~~, ~~characterized in that~~ claim 1, wherein the operational amplifier ~~(A_{in}, 11, 21)~~ is capable of compensating for the trip threshold voltage ~~(V_{th})~~ of all of the modulators ~~(M_{in}, M_{im})~~ controlling the emitters ~~(E_{in}, E_{im})~~ of a column.

6. (currently amended) Image display device according to ~~any one of Claims 3 to 5~~, ~~characterized in that~~ claim 3, wherein the modulators ~~(M_{in})~~ and the first ~~(I1)~~ and second ~~(I2)~~ control switches are components fabricated in thin-film polysilicon or thin-film amorphous silicon.

7. (currently amended) Image display device according to ~~any one of the preceding claims, characterized in that~~ claim 1, wherein the modulators (M_{in}) are n-type transistors and in that their drain is supplied by a supply means (V_{dd}).

8. (currently amended) Image display device according to ~~any one of Claims 1 to 6, characterized in that~~ claim 6, wherein the modulators (M_{in}) are p-type transistors and ~~in that wherein~~ the control means furthermore include a passive component (R) placed between the source and a supply electrode (V_{dd}) of the modulator (M_{in}).

9. (currently amended) Image display device according to ~~any one of the preceding claims, characterized in that~~ claim 1, wherein each emitter (E) is an organic light-emitting diode.

10. (currently amended) Circuit for controlling a current modulator (M) having a source electrode, a drain electrode, a gate electrode and an undefined trip threshold voltage (V_{th}), the circuit including trip threshold voltage compensation means,

~~characterized in that~~ wherein the trip threshold voltage compensation means comprise at least one operational amplifier (~~11,21~~), having an inverting input $[(-)]$, a non-inverting input $[(+)]$ and an output terminal, in which the output terminal is capable of being connected to the gate electrode of the said modulator and in which the inverting input $[(-)]$ is capable of being connected to the source electrode of the said modulator, the said connections thus forming a feedback capable of compensating for the trip threshold voltage of the modulator so that the intensity of the drain current flowing through the modulator (M) is independent of the trip threshold voltage (V_{th}) of the modulator (M).

11. (currently amended) Circuit according to Claim 10, ~~characterized in that~~ wherein it includes a storage capacitor (C) connected to the gate electrode of the modulator and capable of storing the voltage applied to the gate electrode of the modulator.